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For the American Bee Journal.

Keeping Bees for Profit.

E. A. THOMAS.

The apiarist who is keeping bees solely for profit will do well to examine his stock and see if he has a hardy, prolific and industrious strain or not. If he finds them deficient in this point, he should at once introduce new blood into his apiary, for, as far as dollars and cents are concerned, the hardy, prolific and industrious strains are the ones to have, and all other considerations should be thrown aside.

First, I consider hardiness a very essential quality in a good honey stock, for here in the north we frequently have very severe winters, and we rarely have a very mild one. Now, what we want is a race of bees that will stand this cold climate and come through strong and vigorous in the spring, for how can anyone expect good results during the honey harvest if his bees just manage to live through and sometimes hardly do that?

In looking over the JOURNAL I notice that a large number are reporting their bees $\frac{1}{2}$ and $\frac{3}{4}$ dead. Well, when I read such reports I always think that the rest of them might as well be dead, for all the good they will do their owner the coming season. Why is it that some have good success in wintering, in cellar and out, in all ways and under all conditions, while others lose their bees no matter how careful they are, or in what manner they winter them? Simply because some have a good, strong, hardy race that has become acclimated to this cold climate, while others have a weak, puny one that, no matter how handsome they may be, will bring nothing but disaster to their owner. For this reason I would caution beginners in bee-culture against investing too much in Cyprians until

they have in a manner become acclimated.

The second point of excellence in a good working stock is prolificness. After we have wintered our bees safely, and find them in good condition in the spring, the next thing to do is to get them to breed up rapidly so that when the honey comes they will be ready for it.

Now in regard to the third point, industry. Of course a strong colony of lazy bees will be of no more value than a mere handful of industrious ones. Some years ago I had a very strong colony which kept their hive full of brood and crowded with bees, but not 10 lbs. of surplus did I get from it all through the season, while from one that stood beside it I obtained 80 lbs.

As to which of these 3 excellent qualities is the most important is hard to tell; for of course an industrious strain that will not winter well is of no more value than a hardy and prolific one that will not work. It is only when we can combine all these that we can hope for the best results. Several years since, I determined to see what I could do in the way of improving my own stock, and after keeping a close record of my queens, and using the greatest care in

work, I believe Mr. Newman's predictions will come true, and the *Apis Americana* will be the coming bee.

Coleraine, Mass., April 15, 1881.

Apis Dorsata not to be Found in Java.

Again are we indebted to Mr. Jones for copies of private letters, of recent date, from Mr. Benton. We give them entire, as the bee-keepers of both continents are awaiting the result of Mr. Benton's mission with interest. It will be observed that after weeks of laborious toil and suffering many hardships, he has been unable to find the coveted prize—*Apis dorsata*.

Soerakarta, Vorstenland, Java,)

March 7, 1881.

MR. D. A. JONES, My Dear Sir:—I have delayed writing somewhat later than I intended to have done, hoping each day that I could report greater success, but thus far I have not caught a single glimpse of *Apis dorsata* nor any bee but the *Trigona* and *Apis Indica*. I have traveled over much of the west part of Java and have penetrated to the interior of the Island where the native Javanese princes are still holding sway, having, with their war-like adherents, given the Dutch government so much trouble that at last, to settle the matter, the government assigned each an interior province.

I have climbed several mountains in my search, and once reached a height of 10,000 feet upon a volcano, after a weary march up, through dripping, tangled vegetation, over rocks, and through streams, seven hours constantly upward, my way lit by a torch, for it was night, because if I left the foot of the dormant volcanic mountain in the day time I would have the heat of the day for my upward journey, and then find the mountain enveloped in clouds after ten in the morning.

This mountain journey did not show me a single bee, although the morning I came down was a bright warm one; moreover, I became convinced that it would be rare indeed to find in the west of Java primeval forest any bees of the genus *Apis*. This was the first time that I had reached the thick primitive forest, and I found it far different from anything I had previously seen. To understand it you must first know that for the most part, these people live in villages as do the peasants of Cyprus and Palestine, and beyond the district where there are villages they rarely or never go. Now, on these mountains it rains almost every day in the year and the air is, except on the summits, never cold; thus you will be ready to comprehend that a primitive forest in Java is composed of giant trees filled in with a thick undergrowth of bamboo and the whole interlaced with vines. So thick is the undergrowth of bamboo and tree ferns with climbing vines and shrubs that it is wholly impossible to proceed a rod without cutting one's way.

It rains so much, and the moisture which gathers each night is so great, that everything is constantly dripping wet, and moss covers all of the trunks and branches of the trees as well as every fallen body and every rock. There is absolutely no place for the bees. Few

of the trees are hollow; there are not many flowers that would attract the bees. At last in my search I have reached the very heart of Java, but see no great encouragements here. No one seems to know anything of any bee but the common bee of East India—*Apis Indica*—which is here very yellow, and is everywhere to be seen on sweet substances.

Had it not been for the bees I brought with me I would not have staid many days in Java, but they would very likely—some of the colonies I mean, have played out soon had I not remained here to care for them every few days. Of course these people—the Dutch officials do not know what constitutes a strong colony of bees, and thus far I have, by equalizing, kept the queens alive, and when I last saw them about 3 or 4 days ago they gave very encouraging signs. I asked 60 guilders each for the colonies, that is £5 each, agreeing to stay in Java and to care for them two weeks. At the end of that time I saw that it was going to be very risky as regards the life of some colonies so I offered to stay two weeks more if they would pay my expenses; they were glad of the chance and the principal of the school sent in the account at 75 guilders for each colony. The additional 15 on each colony will more than pay my expenses, that is to say much more than pay my hotel bills during the additional two weeks.

I think the account will be so allowed and that when I get back to Buitenzorg the money will be ready for me. After about a month in Java I have about concluded that if I should be fortunate enough to secure a few colonies of *Apis dorsata*, they will cost, in addition to what I have already paid out, a very large sum of money, and will consume much time; therefore I believe my best plan will be to return to Ceylon and go into the interior (by rail) of that Island, where, from all accounts, I feel pretty sure *Apis dorsata* is to be found in some numbers. If, however, I do not get any number there, a trip to the neighboring coast of Hindustan remains as another chance. If I had two months' time, a trip to Timor would be the thing to do, for there *Apis dorsata* surely abounds. But Timor is about 1,000 miles further east and steamers rarely touch there. I might go to Macassar, but that trip would occupy at least a month, and Celebes is a large, very spread-out Island, so that I might search a long time before getting *Apis zonata* or *dorsata*. Bandjermassin, in Borneo, is nearer, but except I could catch a trading vessel going there it is not so easy to reach as Macassar. There are many bees in some parts of Borneo, I am told by the most practical, intelligent government officers I have met here. It seems, misled by the universal statement, I have come to the very island where *Apis dorsata* is as rare as it could be and still exist as a race of bees on the island.

No one can be more anxious to see this new bee than I, and yet after nearly 4 weeks in Java I am obliged to say I know no more about it than when I first came here. That I have endured more hardships in my endeavors to find it you can see from what I have said before, and will know from the statement of the fact that I have sometimes scrambled through thick mountain for-



Egg Tubes of a Prolific Italian Queen.

ests and over sharp rocks for many successive hours, my clothes soaking wet so that I dared not rest a moment; again, an all-night coach ride over fearful roads would give me a chance to—*to keep my eyes open*, and still again it has been my lot to get caught miles from shelter in a pouring continuous rain. It is wonderful how the water falls here.

But I believe *Apis dorsata* will return with me. You know I'm not the chap to leave the matter untested when I have got thus far. Either I will get *Apis dorsata* in Ceylon or go to the main-land of India for it. I have seen two combs of *Apis dorsata*, from the Malay peninsula, and Mr. Schroeder writes me he received "bees of all sizes—worker bees as large as common queens, from Calcutta."

I have received many encouraging words from European bee-culturists, though many of them are doubtful as to the success of the undertaking. "At least we shall know," says one of them. "I am very anxious to get news from you so as to be able to repeat facts, for thus far we have had only suppositions."

I will write again soon. Thus far no letter has been received by me from you since leaving Cyprus. It is a long time since the last letter from my wife was written. Very Truly Yours,
FRANK BENTON.

Here is another letter received from Mr. Benton:

Steamship "Yangste."
MR. D. A. JONES, Dear Friend:—We are getting toward the Island of Ceylon which place we expect to reach to-morrow night or next day early. I shall stop there until the arrival of the next steamer, to put in shape and deliver to the parties ordering them the colonies of bees I left there upon my way to Java, and what is more important to me, to secure if possible a number of colonies of *Apis dorsata*. Landing in Colombo I will proceed to Kandy, in the interior, and have very great hopes of finding somewhere in the vicinity of that place the "Great East Indian Bee."

I regret exceedingly having spent so much time and money in Java, yet it could not be foreseen how it would result, and it was only after I had been there and made a thorough search of West Java that I became convinced that the bees were rarely to be found in that part. I then had but a short time to spend before leaving for Singapore, and so a journey to Timor, the only place where one is certain to find large numbers of these bees, was out of the question. I therefore went to the eastern part of Java and explored the interior forests, but with no avail. The bee that has been so often spoken of as "The Great Bee of Java," as to lead one to think it was common there, is only seen there in very rare instances, and during 5 weeks of constant search I could not get a glimpse of a single bee. I used every available means, sometimes having as many as a dozen men out searching after the bees and questioning all the natives who ever saw a tree containing one of these swarms. That these men did their best you may be certain for the one who found or learned of the first tree containing a swarm of these bees was promised, in addition to his day's wages, a bright English sovereign, quite a prize for a simple Islander. The second was to have half that sum; moreover, they were anxious to please me for they got good pay and wanted a continuance of their employment. But it was no avail; the bees were not to be had, and after weeks of toiling through interminable forest, up mountains and over rocks, in the wildest most out-of-the-way places, I gave up the search in Java as useless.

While in Java I returned from time to time to Buitenzorg, where the colonies of Cyprian and Palestine bees which I had sold the government had been placed, and thus kept them in order. I left them a few days since in a promising condition. The introduction of the culture of bees into Java is a matter of considerable importance to the Island, since, as I am credibly informed by a dealer in wax, \$800,000 worth of wax is yearly used by the 22,000,000 people living there, whose principal garment is the *sarong*, a sort of a

petticoat made of three or four yards of very wide cotton cloth. In the manufacture of sarongs the wax is spread upon a portion of the surface of the cloth and the latter is then dropped in the dye; after the wax has been washed out the parts not covered with it are found to be colored. The process is repeated for each part that is to receive a distinctive color.

Some years ago the Dutch government sent out from Holland a man with 28 colonies of Cyprian and Italian bees for which a special cabin costing \$100 had been built upon the deck of one of the Dutch mail steamers. During the voyage several kilogrammes of ice, a costly article in the tropics, were daily used in this bee cabin to lower the temperature. Upon arrival in Port Said it was found most of the bees were dead; the remainder were then given a few hours to fly and then sent direct to Batavia, where but 5 colonies arrived alive and these were very weak and much diseased. In a few months they were also numbered with the things that were. Thus this expensive experiment of the Dutch government was productive of nothing but experience. After about 3 years in Java, without having made any effort to secure or ascertain anything about the large native bees, *Apis dorsata*, this enterprising Dutch bee-keeper returned to his native land, to which he had rendered such a great service!

It was of course a great mistake to take bees from Holland when they might have been obtained in Italy, or Cyprus, or even in Jaffa, but 12 hours from Port Said. Then the building of this special cabin was not necessary, since, shaded with canvas and in the open air of the decks they would be quite as well off. It was not only an unnecessary expenditure they made for ice, but I believe positively injurious, for it made the bees damp and diseased. In this climate the great question is to keep things dry, for when once an article is damp it begins to mold very soon. Clothes hanging up in a room or carefully laid away in bureau drawers, completely spoil in a short time, sometimes but a few days.

Another mistake in this experiment was to take the bees direct from Port Said to Batavia. They should have gone by the way of Ceylon and there been allowed a flight. The journey from Port Said to Batavia is about 25 days, while to Ceylon it is 17 days, quite long enough in this fearfully hot climate.

It is strange indeed to see how little Europeans in this part of the world trouble themselves regarding the development of the country. Most of them once in their positions live at their ease, letting things move on as slowly as they may. In general they drink more, smoke more, eat more, lounge about more, read less, study less, think less and work less than white people in any other part of the world I have visited. You can readily understand that I could get not only no practical aid but absolutely no information that I could make use of, indeed, it was with the greatest difficulty that I could ascertain anything about those parts of the country that I did not visit.

A very natural inquiry for one in America to make is, "but why did you not go to Timor where it is certain these bees are plentiful?" First, as before indicated, I had every reason to suppose I would secure the bees in Java, then I brought with me the Cyprian and Palestine bees for the Dutch government in Java. Moreover, it would be necessary to visit Java in order to get a steamer for Timor. The latter can only be obtained at rare intervals and the time one can get a return steamer is not certain, besides all this it is a long journey from Java, much longer, I do not doubt, than people naturally think it to be. From Batavia to Timor is 1,500 miles, or this journey is quite as long as one as that from New York to the West Indies, but it is not completed as quickly as the latter, because the steamers do not go directly to Timor, but visit various islands and, too, they are very slow boats.

From Batavia in Java to Macassar in Celebes is about 1,000 miles. Now, considering the time I was able to get

started from Cyprus and the time it takes to go and come, it was out of the question to go to these islands unless I gave up the idea of getting back to Cyprus in time to accomplish anything there this year. I am late enough now, but it was the best I could do, and now if I would not go back without taking any bees I must stay 2 weeks in Ceylon.

These bees are to be had in this part of the world, but you must bear in mind that in this particular the country is unexplored, no bee-keeper ever having examined it before, and it takes some time to find them. Then it is a long way between the countries and islands of which we speak in a breath as though they were near neighbors. You know yourself, through experience, what a long, long journey it seemed to cross the Atlantic Ocean, yet when I shall have arrived in Cyprus I will have traveled on this journey a distance equal to 6 trips across the Atlantic. Thus having left Cyprus late, and not knowing positively the very best course to pursue, it having been an impossibility to ascertain anything about this subject before coming to the Indies, the time has been too short to accomplish what I wished to do. The only way I see to get a large number of these bees is to come here and be prepared to remain for some time, then go to the place where they are most abundant and rent a house to live in—hotels and traveling about are expensive here, especially for foreigners.

One of the most troublesome things which first presented itself was the finding of an interpreter. Only natives connected with the government learn any foreign languages and even few of them do. I could see no other way to get along, so I bought a book and commenced to learn the Malay language, meanwhile, the Director of the Department of Public Instruction gave me as interpreter a young Malay who could speak a little Dutch. It seemed preposterous to think of one's commencing to learn a language in the hope of speaking it in 10 days or so well enough to make transactions with people who knew no other tongue. But the Malay tongue is so very easy, so exceedingly simple, that in 2 weeks I could get along very well, and now, after 6 weeks, I can ask all about the bees. I derived much aid in getting along with my various journeyings through my acquaintance with French, German, Dutch and with the Malay I learned. In fact, with English alone one would get along but poorly in those lands outside of British India, while even in British territory, French and the native language are of very great importance to the traveler.

Mr. Schroder, Mr. Cori, Mr. Filbert and many other European bee-culturists, have written me encouraging letters, and all speak in highest terms of the work, saying also that they await with intense interest the result of my journey, news of which they all wish me to give them as soon as possible, direct from Java.

Earnestly hoping to give more encouraging news soon, I remain as ever.
Yours Truly, FRANK BENTON.

For the American Bee Journal.

Foul Brood.

P. B. P.

The former article which I wrote to the BEE JOURNAL was intended to induce apiarists to investigate the disease of foul brood more, and to leave nothing unturned to set it in as clear light as possible. I am of the opinion that the subject is one that has not been sufficiently clearly investigated, and what has arisen from a want of a proper understanding of this important subject has been misunderstood for a hereditary disease in bees.

The colony which I referred to in my former article was a very strong one, a large quantity of bees clustered on the outside of the box for some days previous to swarming, there were also a number of drones in the colony, and the combs were filled with larvae unsealed. When they swarmed the bees nearly all left the box (hundreds of drones were left), consequently the young bees were

left without food, hence they died and I found them in the state described in my former article. I allowed the box to remain in its place to see what would be the result, which was as I before stated.

Another source of the disease is explained by H. L. Jeffrey; this is certainly the effect of want of proper judgment.

As I believe much of this disease is caused by improper treatment in the winter and spring I will now explain how I treat mine, which has been attended with good success for the last 9 years.

I winter mine in a house, in the walls of which there is 9 inches of sawdust, and 12 inches over the ceiling; there is a ventilator in the floor and another in the ceiling, both valves of which I can open and shut at pleasure. I have a door outside and another inside which fits close; the house is kept quite dark; in it I have shelves on which I place the bees. I endeavor to keep the temperature from 1° to 7° above freezing point, but in the spring when it is likely to rise above that temperature before I remove them from the house, I place a large tub in it in which I put ice to prevent too much warmth, so that the queen will not deposit more eggs in the cells than the bees will cover. When I take them out in the spring if the nights are cold I take the weak colonies into the house and I close the entrance of the others, leaving a small aperture for air so that the bees can ventilate themselves, and in the morning I open them to suit the strength of the hive; in this way morning and evening having attended to them I believe I have prevented foul brood in the spring.

In my winter bee-house I have not lost 6 colonies for 9 years, and by the above care and attention I find I have very little spring dwindling. I have wintered some outside and I do not remember losing one, but it would make this article too long to explain it here.

When I find a colony have nearly all left in swarming and a large quantity of larvae is left in the combs, I immediately artificially swarm one into the box, which effectually prevents foul brood.

There may be other causes for the bees leaving their young to perish and hence causing foul brood, which we have yet to learn.

For the American Bee Journal.

Foul Brood and Feeding Rye Flour.

H. L. JEFFREY.

When I wrote the article on foul brood published in the BEE JOURNAL of March 16th, it was not my own situation that I described, but the result of close observations in an apiary a few miles from me, and in which I have worked a great many days since 1873, and it is only one case out of quite a number that I can give the details of, if it was necessary.

Another cause that has shown quite strong evidence is wet and moldy bottom boards, and I find that there is a difference in wood about the effect—some holding moisture and molding more than others, and this dampness also causes dysentery and spring dwindling to a great extent; at least a great many experiments that I have tried during the past 4 years prove it sufficiently to establish a rule to go by. First, if the bees are kept perfectly dry, they will not be apt to be troubled with the black mold. This mold emits the same kind of gas or poisonous effluvia that is found in wells, deep holes, and in some cellars. This gas is death to all animal life in a greater or less degree. This is also one trouble that is caused by the hives standing on the ground in cold, damp places, and in such I have found spring dwindling, foul brood, dysentery, and black mold more than in any other locality that I have found. I prefer a low stand to all others, yet I have taken particular notice of the great difference, other things being equal, between colonies kept where the soil was heavy, black, wet ground. Those kept on a bench 2 feet high would be as much as 2 weeks ahead of those on the ground, and the colonies on the ground would dwindle twice as bad as those standing on a high bench; on the other hand, the

colonies standing up would fly out worse and be lost on the snow during the sunny days in winter, and be lost in the early spring blustery days. On the other side of the question, where the soil was gravelly and of a leachy nature, there was just as much difference in the flying propensities, but those on the ground would come on as fast, and in as good season as those that stood on a bench, consuming less honey and wasting less by snow or wind. Now, the two locations need reverse treatment in the spring and fall, while in summer they can be the same. I have noticed the above points closely for about 5 years, taking notes of circumstances and comparing dates and results.

There are two things that I have noticed regarding wintering—dysentery and spring dwindling—and find they are alike, in all cases and situations, attributable to the same cause, though situations will cause some difference in time, but the cause and results are the same. 1st. Colonies on 3 or 4 year-old brood combs, as a rule, are the safest for wintering, the paper making them better absorbents of moisture from the bees, and the warmth of the bees will dry them out. 2d. Bees with a quantity of bee-bread invariably have the dysentery when long confined, especially in damp weather when the bee-bread sours and ferments some; it is then fed to the larvae, and some foul brood is the result. But few cells may show at first, but if the bees have a good supply of combs, the disease will make progress fast enough. On the other hand, if they are given no more combs than they can cover, there is not so much danger of trouble. Now, to keep out of the trouble, box all the honey you can or extract it, feed sugar syrup, and be sure that there is no pollen in the combs after Dec. 1st. For the latitude of Connecticut or north: Give the colonies as old combs as you have; try to contract them to 5 Langstroth frames or their equal, that is for ordinary colonies; pack them well at the sides, then lay several strips of lath across the frames to reach from one division board to the other. On these laths put a piece of pasteboard or paper box that will reach two-thirds the length of the top bars, lay on your quilt, and put on the chaff cushion and cap, and be very sure to put a chaff cushion under the bottom board every time. If you do not like this idea, just knock out the under-pinning from your house, and experience how cold and disagreeable it is, or sleep on the slats of your bedstead, piling the bed-clothes on the top and sides of you. It is the same principle exactly. Then let them alone till about the 1st of March, and after they have a good flight look them over. If they can spare a comb take it away, and insert a division board. Before closing them up, rub at least half a gill of good, sweet rye flour into one of the center combs—a gill will not hurt a strong colony—then tuck them up and shut up the hive. The queen will begin to lay immediately, and in as many cells as the bees can cover.

Let the hive alone till the 1st of April, then look it over and you will find a nice lot of young bees. If the bees are not gathering pollen give them some more rye flour, and your colonies will be strong and healthy. The result generally is early swarms or a good surplus. I have tried feeding sugar syrup in the fall and rubbing rye flour in the combs in March and April, with some of my colonies for the past four years, and every year it has proved a success. This year they are the only ones that are proof against the scourge of this ever-to-be-remembered disastrous winter.

Woodbury, Conn., April 2, 1881.

For the American Bee Journal.

Using Separators for Surplus Honey.

GREINER BROS.

It appears from Mr. Heddon's reply in the Weekly of April 6th, that he misunderstands the meaning of our article on "Use of Separators for Surplus Honey." We read the BEE JOURNAL with the expectation of gathering information, and the few articles we have contributed to its columns we hoped might benefit some of its readers. We

did not disagree with Mr. Heddon for the sake of being on the contrary side, but our argument was sincere, and based on actual observation. The fact that Mr. Heddon claims "they sometimes kindly attach the sides of the combs to them" to be an argument against wooden separators, is sufficient proof to us that he does not speak from experience, but merely to sustain his argument.

We are not aware that we declared against tin, as intimated by Mr. Heddon; we only gave the reasons of our individual preference for wood. That Mr. Heddon considers himself a "Galileo" is undoubtedly true, but the comparison does not seem to have any bearing on the subject. The BEE JOURNAL, as a progressive apian periodical, stands too high and is too valuable, in our estimation, to be used as a debating medium. We want facts and actual observation. If we should differ in our views, let us discuss such questions in a friendly way for our mutual benefit.

Naples, N. Y., April 11, 1881.

For the American Bee Journal.

Bee Diseases, Spring Dwindling, etc.

S. S. BUTLER.

G. M. Doolittle says to Novice: "Can't you manage to tell us why bees did not spring dwindle prior to 1870?" Further along he says: "I can't see through it all," and Novice says: "I can't either."—Page 68, *Gleanings* for Feb., 1881. With a great deal of hesitation, after the veterans Doolittle and Novice give it up, I will try and tell what seems to me to be the reason; it is simply this: the bee has lost so much vim or vitality that it is not able to stand the cold as it used to. I will try to prove my position. I was in Eastern Pennsylvania in the fall of 1872, and knew two bee-keepers with nearly 100 colonies each in common hives, who kept them in the old-fashioned way, by brimstoning the poorest, keeping the best, and so keeping up the tone of the colonies, so that when the first disastrous winter came their bees were not affected, because there was not a pseudo scientific bee-keeper near enough to them to lower the tone of their bees by dividing and thus rearing poor queens, which would rear poor drones, and thus lower the vitality of his neighbor's bees.

Mr. Doolittle gives his own case as one where he had to stop rearing queens by the quantity, and pay attention to quality, before he could get honey returns. I have never been able to get anything of account from my bees until I got the best stock I could procure and reared my bees by natural swarming. Hear Henry Alley on this subject, although he does not seem to take the same view of it that I do. On page 42, BEE JOURNAL of Feb. 9, 1881, he says: "I have found farmers who have kept bees in the same place upwards of 40 years without indications of deterioration." I think they will always be found far enough away from frame-hive bee-keepers, so that drones from the divided bees have not mixed with their bees.

If our friends will look around in the cold Northern States, they will find old-fashioned bee-keepers, where away from new-fashioned ones far enough to keep the bees from mixing, also away from sorghum and cider mills, and do not get grape, peach or apple juice, or honeydew in quantities, are still wintering their bees well. Bees are no better by being kept in the old-fashioned than in a frame hive, if allowed to swarm in the frame hive; but it is impossible for an old-fashioned bee-keeper to keep his stock good, if others near him divide theirs and rear forced queens. "Five hundred dollars would not hire me to breed all my stock from an imported mother and let my present stock go down."—Doolittle, page 21, Jan. number of *Gleanings*. Why are imported Italians getting below our best American yellow bees? For the reason that all the Italian exporters are rearing their queens by the forcing process, for quantity and not for quality. I would warrant very fine Italians from a locality in Italy where they had been allowed to always swarm naturally.

How has it been with the great Dr. Dzierzon, who has never imported but

the one colony of Italians, and stocked his large apiaries, sold quantities of queens, and still has good bees after a quarter of a century? Dzierzon's experiment is a very strong argument in favor of in-and-in breeding, as are also the qualities of the Cyprian and Palestine bees, where they have bred in-and-in for ages. Dzierzon's success is because he is a real scientific apiarist.

What say the Hanoverians (bottom of third column, page 30, BEE JOURNAL of Jan. 26, 1881)? They think they rear a finer bee by destroying $\frac{1}{2}$ of their bees, thus renewing all their combs every three years, and avoiding foul brood.

I would like to inquire of Mr. Jones or Mr. Benton if they heard of foul brood in either Cyprus or Palestine. My opinion would be that a colony of either Cyprians or Palestine bees would not take or catch foul brood, if fed with foul broody honey, because they are naturally so vigorous. To try the experiment, I should want my queen reared naturally, from a locality where they were all reared the same way. I am glad to see that a few of our best apiarists are giving the necessary attention to their bees, so that others can get queens that will be an honor to the breeder.

I am getting quite well pleased with the change in the BEE JOURNAL; I had been used to the Monthly so long that I at first disliked the change; but now would be very much opposed to having it relapse into a Monthly again. I have just taken out of the hives about 150 lbs. of honey, $\frac{1}{2}$ of which was new, showing the bees to be very forward for the time of year.

Los Gatos, Cal., March 3, 1881.

For the American Bee Journal.

The Bee and Grape Controversy.

L. JAMES.

Several years ago this same charge was brought against our bees by the vineyardists, and I supposed the evidence adduced then by the apiarists had proven satisfactory. But another dry fall has been attended with a heavy loss of grapes, and the bees have again been arraigned as the culprits. If bees were not armed with such sharp weapons as to be held in dread by many persons not accustomed to handling them there would be but little difficulty in satisfying our neighbors that our bees are in reality their friends, and that the charges brought against them, though appearing so to a casual observer, is an erroneous conclusion drawn from imperfect investigation. I am interested in both branches, and have been for over 20 years, and although losing grapes in the same way as my brother vineyardist I say to him, that for many years I have settled this matter to my own satisfaction, and in as few words as possible inform him how he can reach the positive fact that bees do not injure his grapes if he will spare one hour or less from his pressing duties and learn one truth that is worth to him more than a dozen "I think so's."

The first dry fall that causes the bees to gather in countless numbers on your grapes, call in to your assistance some person accustomed to handling bees and not afraid of being stung (as I presume you are), select a cluster of grapes that is so full of bees that you cannot see a grape, then request him to drive them off by blowing his breath strongly upon them and at the same time whipping them with a whisp of soft grass. Now remove every imperfect or already injured berry. Do this effectually. After having done so step to one side and the cluster will in all probability be hid from sight by them again. Sit quietly by and rest yourself for a while and you will observe they will begin to leave, and when all have gone examine and you will find the very end of the stems from which you plucked the damaged fruit sucked dry, and every sound berry will be found just as you left it and the same bees as busy on some other cluster, doing a better business.

This simple test, if properly conducted, will satisfy you that you were in error. What would you think if one of your city cousins should come running from

your sheep pasture and cry out, "John! John! the buzzards are eating up your sheep!" You would no doubt laugh and say, "That's not so, George." The probability is that your blunt contradiction to his conviction of a fact would probably cause him to retaliate by saying, "Well John, they are your sheep, and if you see proper to let the buzzards destroy them in this way, all right. But I tell you it is a fact for I saw them myself with my own eyes tearing your sheep to pieces and eating them, too." I presume such evidence, coming from an honest but decided person, would have but little weight with you. The bees, just like the buzzards, are nature's scavengers in this instance, nothing more, nothing less, and utilize the fragments.

Who are the real depredators? With us, first on the list stands the grass-hopper, small in size, great in numbers (in certain seasons) and armed with terrible jaws for just such work. In my apple orchard last fall the apples were badly cut in holes by them and crickets. Grass-hoppers will either eat or cut almost everything on which they crawl or hop. My orchards are in grass, and some seasons the hoppers very numerous. At such times, if clothing is hung up in the orchard it is liable to be damaged by them. Crickets, and other nocturnal insects depredate to a greater or less extent also. The robin and catbird are both on hand in grape gathering also, but as they render valuable assistance to the horticulturist in obtaining his crop of fruit, and as we toil among our vines their outbursts of mimicry or song amuse or elevate our thoughts and we feel disposed to grant them a portion of the crop. The robin, good fellow as he is, should be welcomed to his fill of concord, as he plucks no more than he eats. But when you see the catbird coming, shoot him if you can, and summon all your Christian graces to govern that unruly member—for when grapes are ripe he becomes the meanest bird that wears feathers. He knows just where the best grapes grow, and a second or third rate one he has no use for while a No. 1 is to be had; very unlike the robin, he does not pull off the berry and swallow it whole, but takes a nip out of one and then another in his restless way and by the time he has satisfied his appetite he has ruined enough grapes to furnish a host of bees with employment in rescuing the pulp of these damaged berries, until he makes another call. These damaged berries are of no value to the vineyardist, then why object to let this right royal insect gather up the fragments from the catbird's feast, that would be lost?

It is well known to persons growing grapes that when the fruit is fully ripe that a soaking rain and a warm atmosphere may cause many of the berries to burst, from the fact that it has ceased to grow and is incapable of sustaining the internal pressure of the extra incoming flood of sap.

Most bee-men are aware that bees are able to gnaw such articles as paste-board, sacking, and even wood, yet I am satisfied they are unable to cut open the grape. My belief is based upon the following premises: Paste-board, textile fabrics and wood, however smooth, have sufficient elevations on the surface for the jaws of the bee to get a hold, but the skin of the grape is very smooth, somewhat tough and elastic or yielding in its character as to afford no hold to be had, and I have no doubt a practical microscopist could give an illustrated drawing of the mouth of the bee, showing its inability of opening the berry. Again, there is one thing certain, the intense excitement and energy displayed by bees when engaged in this business would not cease when the already open ones were consumed if they had the power to cut through so thin a covering as stands between them and the so much coveted interior.

Atlanta, Ill., April 11, 1881.

[So far, the preponderance of evidence tends to exonerate the bees from all the charges which have been brought against them; this is the more gratifying, as the majority of it comes from those who are themselves engaged, more or less, in grape culture.—ED.]



THOMAS C. NEWMAN.
EDITOR AND PROPRIETOR.

CHICAGO, ILL., MAY 11, 1881.

Food Adulterations from a Hygienic Standpoint.

In March last, Dr. W. S. Haines, professor of chemistry in Rush Medical College, startled the scientific portion of community with an elaborate lecture eulogizing the virtues of glucose, and indirectly defending its universal manufacture and sale as an adulterant. Of course, he scientifically dresses up the stereotyped and popular arguments that *grape sugar*, as found in the grapes, and glucose made from corn with sulphuric acid, are substantially one and the same, and similar to that made from potatoes and bread in the laboratory of the human stomach. He might have added, also, that chemically speaking, the same product could be realized from a great majority of the garbage to be found in the gutters of our popular cities, but for fear of adding to the prejudice already existing, we suppose, he kindly omitted giving this information. Evidently, the following extract explains the reason for the waste of his valuable time—first, to remove the prejudice from the public mind regarding the use of glucose; second, to beguile the farming community from their opposition to swindling:

I believe it is no exaggeration to say, at the present moment, at least two-thirds of the reading public look upon glucose as a dangerous substance, possessed of highly deleterious or even poisonous properties, and I question whether 1 housewife in 20 could be found who would accept a pound of this sugar as a present, if she were obliged to promise to use it in the household cooking. A recent letter in one of the daily papers expresses, I believe, the average public ignorance in regard to glucose, when it says: "The persons who have been made sick, and are injured for life by its use, are already a mighty host.... No wise man wants glucose for food." Another equally misinformed writer says: "...Grape sugar is not only injurious to health, according to chemists, but it is a plain and palpable fraud, because it is not sweet.... It is of no possible use except for adulteration."

If, as I have said before, this mistake was like most of the other popular fallacies, a harmless error, we might afford to let it travel, confident that it would do no serious harm. But since it threatens to affect a branch of industry which promises, if it be encouraged, to rebound to the advantage of every man who owns a farm or who plants an acre of corn, I believe it is high time to discuss the subject, and remove the prejudices against this truly valuable product of chemical skill.

The following paragraph contains the gist of his lecture as to the method of manufacture:

By mechanical and chemical means the starch is first extracted from the corn and then is boiled with very dilute sulphuric acid, when it rapidly passes into solution and becomes changed into sugar. The chemical action that takes place during this transformation is highly interesting. Both starch and glucose consist of exactly the same elements, carbon, hydrogen, and oxygen, united, however, in slightly different proportions—the sugar containing just enough more of the oxygen and hydrogen to equal the quantity of these elements present in a molecule of water.

So improbable and highly discolored was the whole lecture, that many of the better informed and more thoughtful of the readers of our morning papers were not slow to believe the Doctor had other than scientific motives for giving utterance to such a lecture, and he found it necessary in a supplemented letter to disclaim any selfish purpose in preparing it.

A few days after the lecture above referred to, an Iowa farmer sent to one of the daily papers a can of glucose syrup purchased in Davenport, and stated "he and his family had been using the syrup for some time just as they had the ordinary cane syrups, and liked it exceedingly; but, after steady use of it for some time, he discovered that the digestion of every member of the family was ruined, and that something or other, presumably the glucose, because that was comparatively a new article of diet with them, had seriously disagreed with their stomachs." Dr. T. D. Williams, quite eminent as an analytical chemist, after careful examination, made the following report and explanation, to which we give considerable space:

I find the contents of the can to be a solution of starch sugar (grape sugar), and not uncrystallizable starch sugar (glucose) or starch syrup, as alleged.

The reaction is acid. The specific gravity is 1.343, indicating the presence of 75.5 per cent. of starch sugar.

The substance is unusually sweet; a fact showing that the saccharine properties have not been destroyed either by heat or by the undue presence of lime (combined with heat), which fact is corroborated by the presence also of free sulphuric acid. I also find traces of sulphate of iron (copperas).

The microscope reveals innumerable delicate crystalline tufts, and larger warty bodies of starch sugar, thus in a manner authenticating the chemical examination made. It also shows the presence of sulphate of lime and a vast quantity of vegetable tissue (cellulose).

I believe in calling a thing by its proper name. Artificially, no such substances as grape sugar and glucose were ever made. Now, while this may appear to you to be an ultra expression, I am willing to be convinced of my mistake, if I am, indeed, making one, for, as a matter of fact, the terms grape sugar and glucose in their original sense refer to the natural products alone, and not to any artificial ones. Dalton very properly says: "The cane and grape sugars are held in solution in the juice of the plants from which they derive their names." Again, Dunglison defines glucose as being a variety of sugar (uncrystallizable) that occurs naturally in many vegetable juices and in honey.

Indeed, these terms were subsequently given to the artificial products, and, in my opinion, erroneously so, because of their saccharine properties and their chemical combinations, which, in both instances, are isomeric with the natural product. I say the names are erroneously given; first, because they are not natural products; and, second, not being those produced by nature, man has no right to presume upon their possible physiological effect. Assuming that such effect is the same, a thing recently done, because of an alleged family patronymic.

Dr. Williams said he believed that the frequent reiteration of the statement that the natural product is wholesome, a truth made use of conjointly with the word glucose, for the purpose of extending the sales of the artificial product. The misrepresentation so constantly persisted in is a question of fact, as is also its avowed purpose. The glucose manufacturers and their devotees, in some few instances ignorantly, but oftener intelligently, are engaged in misrepresenting the facts, as above stated, and this, too, with but one object in view—namely: that they may uninterruptedly perpetrate fraud. I want you to understand that these men are not so

greatly interested in the public health, notwithstanding their clamor, as they are in the money in the public pockets. In other words, that I believe their personal proclivities tend more directly towards mercenary motives than they do towards sanitary benefits.

It is unnecessary to assure the intelligent reader, that Prof. Williams' opinions regarding glucose are in accord with those of the most celebrated chemists of Europe and America, and that it is anomalous to find a scientist of any respectability who agrees with Prof. Haines.

Bee-keepers are thoroughly disgusted with the villainous stuff, and the following will find a ready echo in every honest heart: "I have never used an ounce of glucose, and would quit the business if I had to use it. I have instructed my merchant to give away my honey if any trace of glucose can be found in it."

The following communication bearing upon the use of glucose in the apiary, will be read with interest by the thousands of admirers of its writer. The earnest language employed by the Rev. L. L. Langstroth, its author, and his forcible manner of presenting facts, cannot fail to carry conviction that the matter has received the fullest consideration:

Much has been written in favor of and against the value of grape sugar as a winter bee feed. Some years ago, while not denying that it might be safely used in winter, permitting cleansing flights, I expressed the opinion that it might prove very injurious when the bees were confined for a long time to the hive. I could then speak only theoretically, now I can give the most decided testimony against it from actual observation of its fatal results, in an apiary only a few rods from my house. Mr. David McCord prepared 65 colonies for wintering in the open air. Being both painstaking and skillful, he had never before in wintering lost a single colony. Thirty-six of these colonies were fed in the fall upon a syrup made of $\frac{1}{2}$ coffee A sugar and $\frac{3}{4}$ grape sugar; the others had no grape sugar. Every colony but one which had grape sugar died of dysentery. Two of the others starved, while the rest came through in better than average condition. His brother, living close to him, wintered 23 colonies in the open air; one starved and the average strength of the others was unusually good. He used no grape sugar in any form. They died with dysentery, between combs well supplied with the mixture above referred to.

Early in April, even after they had several cleansing flights, the only one of the colonies fed on grape sugar that had survived, was found to be suffering so badly from dysentery that not a bee could fly. An empty hive was warmed by laying it upside down upon a stove; some combs of good honey were also warmed and the bees brushed into the hive from their filthy combs and carried into a warm room. Those which could not crawl upon the combs were given a warm bath, and when dried, returned to the others. Although quite weak in numbers they are now in good heart. One night more on their grape sugar combs would probably have killed them.

This experiment of Mr. McCord's has suggested to me the idea that when bees are suffering from dysentery and no flight can be given them, or they are too weak to fly, a warm bath, even carried so far as to make them insensible, might so relieve them, both externally and internally, as to restore them to health. They can easily be warmed and dried by confining them to a sieve. The fearful loss sustained by so many of our best bee-keepers, both in special winter depositories and in the open air, seem to give renewed emphasis to the importance of providing some feasible way by which the bees can be given a purifying flight, without any reference to the external temperature.

If 1 lb. of honey or cane sugar has over twice the sweetening power of a

lb. of grape sugar, it is self-evident that to sustain life bees must consume a much larger quantity of the latter than of the former, and that there must be a much greater amount of waste (feces) from the grape sugar. Is it not, therefore, a demonstrable certainty that there is much risk run in using it for winter supplies, where the cold may for 4 or 5 months confine bees to their hives?

In what I have thus far said, I do not assume that grape sugar cannot be manufactured as pure as that found in the raisin. Mr. Frank R. Cheshire, who is high authority, says, in the *London Journal of Horticulture*, April 14, 1881, page 300, that "glucose can be made from old rags, old paper (second-hand pawn tickets having sometimes been employed thus), and indeed any form of cellulose or starch, Indian corn in America usually being the source, and by the action of sulphuric acid can be converted into a sugar that no chemistry, no palate can distinguish from that taken from the most dainty bunch of grapes.... It is equal to grape sugar, whatever its origin, and as an article of diet it has its value; but all this still leaves its use as an adulterant most disgraceful, and all should join hands in fearlessly doing our level best to get the right ticket put upon any man (and his wares) who descends to a practice which, if it does not lower him, wrongs all those who are striving to do honestly. Glucose, although chemically like a portion of honey, is altogether wanting in that which makes honey what it is. Its aroma, the delicate distillment from a thousand flowers inimitable and incommunicable alike, is not there, and he who gives the one for the other is as truly criminal as he who tenders knowingly a base coin."

Mr. A. I. Root, in *Gleanings* for April, page 203, says: "The American Grape Sugar Co., of Buffalo, N. Y., have at length produced a sugar entirely free from the slight bitter taste which has heretofore characterized even the best refined grape sugars. It is a pure product of Indian corn, and is as pure and simple a sweet as the best grades of maple sugar."

Now, the expert chemist may perhaps make a perfectly pure article of grape sugar, but this is a very different thing from his being able to manufacture the same on a large scale, and for commercial purposes, so that it can be profitably sold for its real sweetening value. Our friend Root, in his honest enthusiasm, says: "Just taste of it yourself (the Buffalo article) if you are incredulous. We will mail you a sample for 5 cents, which I think will settle the discussion." We have tasted it, and yet are not convinced. A very nice article it is as compared with that made a few years ago, but, if our taste is not at fault, the bitterness is not yet wholly eliminated. We have tested it side by side with a pure article of maple sugar, and we should never think of comparing the delicate taste of the latter to the mockish taste of the former. We are far from setting up our own taste as an infallible criterion, and we therefore call upon Prof. Kedzie, or other analytical chemists, to take hold of the matter and give us the bottom facts, without fear or favor.

Suppose that their verdict is that the Buffalo article is a perfectly pure grape sugar—what then? Considering its low sweetening power, at present prices can there be any advantage in using it as a bee-feed which will justify the risks to which I have referred? Are not both grape sugar and glucose, at present, used on so enormous a scale, almost entirely for adulterating the commercial sweets? Is it not a fact sworn to by one of the former proprietors of the Buffalo Co., that on a capital of \$400,000 they realized in one year a profit of \$1,000,000? Did not this profit come by furnishing to unscrupulous men the facilities for adulterating the sweets in common use by the people? Tweed-like, the reply to such questions may be for a little longer, "what are you going to do about it?"—but we hope only for a little longer.

What interest has one out of a thousand of our citizens in having the dollar paid out for sweets go so largely to enrich the pockets of those who furnish

no equivalent for the money they receive, even if they do not sell an unwholesome article in their adulterated mixtures? The American people may be somewhat slow in reaching results, but how often have we found that they effectually reach them at last? Let laws be made compelling those who manufacture grape sugar and glucose to sell their products for what they are, and forbidding the use of them in adulterating our commercial sweets, and how long will it be possible for manufacturers or dealers to make such exorbitant profits out of a deluded public? Then if their products are wholesome and have a substantial value, prices will find their proper level, and the new sweets may be of benefit to the public.

L. L. LANGSTROTH.

Oxford, O., April, 1881.

Oleomargarine and lard-butter are rapidly working their own destruction. While the best medical authorities are attributing the rapid increase of Bright's disease, diabetes, and other complaints incident to the urinary organs to the excessive use of glucose, bogus butter is now charged with giving rise to indigestion, cramps, "winter cholera," and even trichinae. The recent legislative investigation in New York has brought to light some interesting statistics, and verified a prediction we made several months ago, that while it was not only a fraud perpetrated upon the unconscious consumer, it was an injustice to manufacturers of genuine butter and cheese, and would bring their goods into disrepute. We collate the following from the reports of the investigation:

The direct injury to the dairy interests of the country was put at \$50,000,000 to \$75,000,000 per year. Francis D. Moulton showed that last year 25,000,000 lbs. of oleomargarine and 28,000,000 lbs. of butter were exported from the United States. The committee visited the oleo-grease-butter factories without warning, and found them dirty and offensive. Consumption is being greatly curtailed by the fear of oleomargarine and lard butter, and the trade in good butter is much injured.

C. A. Butler testified that some manufacturers made oleomargarine from the fat of offensive meat, and extracted it at a temperature of 150°, which was nearly 100° below the temperature necessary to destroy animal life in fat. He had little faith in the legislative measures to prevent the sale of an adulterated article for genuine butter, but thought a small license fee and a penalty of \$500 for each offense might do something toward suppressing the adulterations. He would compel grocers who dealt in bogus articles to display the sign, "Adulterated butter and cheese sold here."

Walter Carr testified that an immense amount of lardine or lard butter was disposed of in the New York markets. Not one-hundredth per cent. of the bogus articles manufactured is sold for what it is, and grocers sell it at an enormous profit for the reason that if they took only a fair profit, customers would suspect the character of the article sold them for butter. Customers, if they knew what they were getting, would not buy it.

H. K. Thurber, of the firm of H. K. & F. B. Thurber & Co., testified that he is now manufacturing about 2,500 tubs of oleomargarine weekly. Last year he exported nearly one-half of his manufacture, but this year only 7 per cent. He branded all his goods as required by law, but was aware that some retail dealers removed this mark when they dealt the oleomargarine in their possession.

Of course, there are some persons who do not hesitate to declare that oleomargarine and lardine are as wholesome and desirable as good butter, and preferable to poor butter; yet they acknowledge that it is sold, if at all, under any name but the right one. The fact that glucose and grease-butter have to be

sold under fictitious names, is argument conclusive that they should be retained under their right names; the same is applicable to all food and medicinal adulterations. If a customer asks a grocer for sugar or honey, he should have it, and not a decoction of sulphuric acid and corn-juice; if he buys butter he should have it, and not wagon-grease at butter prices.

Viewed from a moral standpoint, the whole system of food adulterations and their imposition upon the public is wrong, radically wrong. But if chemical and medical testimony is entitled to any weight, then the moral wrong is transformed into a serious crime. Instead of feeding our families with wholesome, nutritious food, we are daily administering insidious poisons which, though not merciful enough to cause speedy death, is quite as certain in accomplishing final destruction. What does it matter whether days, months or years be consumed, if under the guise of legitimate food a nation or race of people may become contaminated, their duration of life shortened, temporary ailments become chronic, and activity and intelligence degenerate into effeminacy and imbecility, does it relieve the government of its duty in the matter? Is it not imperative upon Congress to protect the people from national calamities? Can Congress ignore the universal demand for protection from imposition, when it has been convincingly demonstrated, time and again, that as a sanitary measure it is absolutely necessary? State Legislatures have nobly attempted a partial reformation, and have ignobly failed. Food adulteration is a National evil, and nothing short of a National law can regulate it. If any imitation is equal in point of excellence to the genuine article, then its manufacturer or retailer need not fear honest competition under its proper name; but if it is inferior, then the genuine article should be protected in its superiority, and the purchaser be protected against imposition.

Correction.—On page 139, in Mr. Boardman's article, 15th line from the top, the word pushed should be *perished*; 36th line, the word feeding should be *fussing*. These errors occurred through the oversight of the printer.

We attended the Central Michigan Convention on the 5th inst. There were about 100 members present—some 8 or 10 being ladies. The Rev. J. W. Ashworth presided and Mr. Geo. L. Perry was secretary, and both were re-elected for the coming year. Mr. Perry worked faithfully to get up a good meeting, and must have been flattered at his success in that direction. We enjoyed a short but very pleasant visit with Prof. A. J. Cook, well known throughout the apicultural world as a scientific and thorough bee-master. A report of this Convention may be expected in our next issue. The *Chicago Times* of Friday had the following special telegram:

LANSING, Mich., May 5.—The Central Michigan Bee-Keepers' association was in session here to-day. Mr. T. G. Newman, editor of the *BEE JOURNAL*, of Chicago, delivered an excellent address, which caused much enthusiasm. Prof. A. J. Cook, of the Agricultural College, reviewed the subject of wintering bees and the causes of disaster. The losses of bees during the past winter by those present amount to 55 per cent.



LONDON JOURNAL OF HORT.

Apis Dorsata.—Mr. Alfred Neighbour has translated from the *Bienen-Zeitung*, a letter from Herr C. J. H. Gravenhorst, on the introduction into Germany of this large bee of Java. Mr. Gravenhorst quotes from a letter received from Mr. Benton concerning his visit to Java to obtain these bees, and also says that he is in correspondence with Dr. Grabowsky, a young savant of Prussia, who is going to Borneo to collect insects, plants, etc. The editors of the *Beienen-Zeitung* append the following comments, which will be read with interest:

Mr. Vogel received some very special information about this species of bees direct from India a few years ago, and in his opinion the introduction of the species (not race) would be of great scientific interest, as its hybrid offspring especially would afford bee-keepers some very valuable information. To acclimatize this bee in Germany will be impossible, as coming from the tropics it will not be able to live through our northern winter. This was our experience with *Apis fasciata*, which dies in the hive when the temperature of the air outside shows from 3° to 5° R. frost, though the walls of the hive may be thick and warm. Nevertheless, in the interest of science we recommend the importation of *Apis dorsata*, and Mr. Vogel will announce in due course how to make it safely and without difficulty live through the winter.

There can be no question of any practical importance attending the introduction of *Apis dorsata* into Germany, but it might be possible to acclimatize it in the Southern States of the United States of North America.

GLEANINGS.

Mr. C. E. Glazier says: "He has lost 70 out of 88 colonies with prospect of losing still more—50 "spring dwindled."

Novice says: "I think you are right, friend N., in deciding that good cellars are almost the only sure winter repository in a winter like the past."

Mr. J. H. Townley, the original chaff-hive man, is disgusted with them, and offers to sell his "38 chaff-packed wintering hives at a price much below their actual cost."

Mr. James Heddon says: "Out of 212 colonies, nearly $\frac{1}{2}$ are dead and worthless; about $\frac{1}{2}$ were packed with chaff, and $\frac{1}{2}$ with sawdust, and shavings above. The loss is greater among those packed in chaff, though they being in another apiary, it is no test of packing that we can be sure of."

Save the Empty Combs.—"Do not let your empty combs go to waste. If they are nice ones, do not try them up for wax, either. Look at them often, fumigate them if the worms get started on them, and save them for another year, if you do not need them all this. I have often saved them over, without a particle of injury."

Langstroth Frames for Wintering.—Mr. H. B. Harrington says: "Facts will show that bees in hives with deep frames... have died just as badly, if not worse, than those in the usual hives (Langstroth frames). Out of 37 hives of bees... 17 in the "American" hives and 20 in Langstroth—all died in the American hives but 2, and there were 10 in the Langstroth hives that lived."

"Novice's" Report.—The following is taken from the department of "Blasted Hopes," in *Gleanings* for May:

Started into winter quarters with about 140 stocks, in chaff hives, well protected, but pretty weak in bees.—During the winter and spring, the queens were sold out of perhaps 20 of them, and the bees were put with others. To-day, April 22, I have 12 hives with bees in them. Three of the 12 are gathering pollen fairly, but the other 9 will pull through, only with the very best kind of weather and care. The cause of the loss, so far as I can tell, is, first, too few bees; second, that the combs were handled and mixed during the process of uniting after queen-rearing, so that the bees had no chance to build and wax up in old tough combs before the approach of cold weather, as they usually do; third, the long winter, which gave them no good opportunity to fly, for a period of nearly 6 months. I am not quite sure in my convictions, from the fact that others lost heavily, who complied, so far as I can tell, with the first of the above conditions, and also that some wintered well whose bees were in as bad shape, or nearly so, as mine. Another thing, I do not know why those three fair colonies came out better than almost a hundred others. The above report is for myself,

A. I. Root, Editor of *Gleanings*.

Mr. G. M. Doolittle says: "If this weather keeps up long I shall lose half of my bees that were wintered on the summer stands, packed in chaff. Those in cellars are doing much better."

MISCELLANEOUS.

By the *Eichstättische Beienenzeitung* we learn that a committee has established itself to erect a monument to the honor of the Baron von Berlepsch, who has done a great deal toward the advancement of modern bee-culture. The monument of marble and metal will cost about \$300, and will be erected in Erfurt, the capital of the Baron's native country. The petition closes with these words: "Honor yourselves, by honoring this great dead."

Timely Hints.—Mrs. L. Harrison, in the *Prairie Farmer*, gives the following timely hints to novices in bee-culture:

The last half of April was very favorable for bees. It was astonishing how much pollen was carried in during warm, moist days. As there are but few bees in this locality, besides our own, we feed them diluted honey in the open air, and we never saw them build up faster at this time of the year. The shade trees of the city, such as cottonwood, box elder, soft and silver-leaved maples, hummed with the music of busy workers.

As soon as a colony becomes populous, it would be better to remove frames of hatching brood, and give them to weaker colonies than to put on surplus boxes. Frames containing worker comb should be put in place of removed brood, and some apiarists claim that it is best not to separate brood combs, but to place these empty frames at the side instead of the centre of the brood nest. Bee-keeping is a knowledge of small items, and good judgment must be exercised in the practice of it. Thus in building up weak colonies at the expense of the strong, if we are not very careful we will soon have the best ones in the same condition that the poor ones were formerly; but if hatching brood is taken away no faster than the strong one can bear, and the colony is stimulated with feed, the apiary will be benefited by the exchange. A good way to feed during stormy weather is to uncap frames of sealed honey and put it in the place of empty comb.

During seed time remember the winged stock, and put in a tid-bit for them. Sweet clover, mignonette, borage, mustard, etc., will bring quick returns, and when setting out trees do not forget the linden.

Dathe, a noted German apiarist, has recently died.

SELECTIONS FROM OUR LETTER BOX

Taking Off Top Cushions.—When is the time to take off top cushions? I have not seen anything about taking off, but enough about putting them on. Mine are on yet. I lost 4 colonies in wintering—2 in frame and 2 in box hives. I believe in top ventilation; without it, I believe I should have lost all my bees. I will give an old Virginian's method of trapping moths: Put an iron kettle in your bee-yard, in the midst of the bees, fill half full with soapsuds, drive a stake solid in the ground near the kettle, nail an arm to it so as to extend over the kettle, then hang a glass lantern in the kettle so it will reach within 2 inches of the water. Light the lantern at dusk; the light attracts them, and they soon worry and fall in the suds. Throw a rug over it in the day time. J. N. B. Linn Grove, Ind., April 22, 1881.

[Leave top cushions on till the nights become so warm as not to chill the brood, then replace with a blanket or honey-board till time to let the bees up in the second story.—Ed.]

Loss 90 Per Cent.—In this region we have suffered the loss of nearly all our bees during the past winter. I think that 90 per cent. of the whole quantity is dead. I know of none who had better success than I, and my loss was 5-12. Well, we are not discouraged; our survivors are working finely, and in every way are making a good start. I congratulate you on the success of the Weekly JOURNAL. W. B. SPENCE. Sidney, O., April 30, 1881.

Wintered Without Loss.—I put 30 colonies of bees in the cellar Nov. 10, and took them out April 23; they all came out alike strong with bees and had plenty of honey. They are at work now on the willow and popple. The loss in wintering has been very heavy in this vicinity. It was a poor honey season last year in general. From 25 colonies I took 1,000 lbs of comb honey and had 5 swarms. The BEE JOURNAL comes every Friday; that is not too often. Mr. G. M. Doolittle's articles in the JOURNAL were worth more than \$50 to me last season. As long as I keep bees I shall take the BEE JOURNAL. CLARENCE MARSH. Sharon, Vt., April 25, 1881.

The Italian Bee not a Pure Species.—Mr. Demaree, upon this question, furnishes the readers with some very important considerations regarding the purity of the Italian bee, which he pronounces a hybrid, or a cross between a pure "yellow, quiet race, and a fierce, black, irritable race of bees," and he thinks it impossible that the race is pure. He is tempted to ask what is meant by the dark and light strains of Italians, and what point is the dividing line to be fixed. The dividing line, I supposed, had already been fixed, or so near that it was very satisfactory to all, or nearly so. As to color—i. e., light and dark—it is of but little consequence, if the markings be true and uniform, which cannot be found in a hybrid of any kind. When the Italian bee is crossed with the black in this country, there is no uniformity of color about them. Does the same rule work in Italy as here? Certainly it does. It must be a settled fact, if they are a cross between the pure yellow and the pure black that Mr. Demaree speaks of, have they not been bred long enough to become a fixed type? Most assuredly they have. At least this is my experience with them 18 years. From the first I claimed they varied in shades of color as much as does the Anglo-Saxon race, but with uniform markings of the three golden bands; that is, the entire colony.

It seems that the writer had a starting point, as he speaks of a "pure yellow race" and a "pure black race." If there did exist a pure yellow race as he speaks of, is it possible that race is entirely extinct. As to the color of the beautiful Italian bee being altogether produced

by a careful selection of our own, is a gross mistake. There may be cases where this to a certain extent is true. I have seen the brightest and most beautifully colored bees bred from one of the darkest queens I ever saw. This is quite common with many of the dark imported and home-bred queens, but the progeny of those queens did not show any signs of the black bee, even if they were several years old. As regards the different shades of color being evidence of their impurity, where they breed uniform, it is all bosh.

The month of March afforded but little food for the bees. In the peach, plum and many other flowers, the honey and pollen were mostly destroyed. Strong colonies bred heavily through March; some with little honey had much brood; the 25th of March we had a cold freeze which destroyed nearly all the peaches and killed large quantities of brood; the cold caused the bees to recede to the center of the hive to keep warm, leaving the young larvae to freeze. This happened only in weak colonies, as the strong ones had plenty of bees to keep warm. On the 5th of April they commenced to swarm, which they have kept up quite busily. They are gathering honey rapidly at the present time, and the prospect is rather encouraging. The past season was one of the poorest known for many years, and caused some to retire from the field in disgust.

The past winter was a severe one on all colonies with but little honey. Strong colonies came through splendidly, and up to the present time some have gathered perhaps 20 lbs. or more. All the bees that have died are such as were destitute. White clover is now blooming, and many other flowers, giving the bees plenty to do. A. F. MOON. Rome, Ga., April 23, 1881.

Prevention of Swarming.—I was delighted to see the change from Monthly to Weekly, and wish it every success. I have increased by natural swarms, since March 31st, from 13 to 35 colonies, and they were all very large ones at that. The bees are now in a feast of white clover bloom, and storing honey rapidly. I am now cutting out all drone comb and destroying queen cells, to try and prevent them from swarming. Am I pursuing the right course? If there is any better plan, please report it in your valuable JOURNAL.

W. R. THOMSON.
New Iberia, La., April 29, 1881.

[If you have the time to spare to go through your hives once a week and destroy queen-cells and drone comb it may do; but we would advise that you clip one wing of each queen. With a small pair of scissors or a sharp knife, cut off about $\frac{1}{2}$ or $\frac{3}{4}$ of the wing. The operation is quickly performed.—Ed.]

More Homer.—

The Weekly BEE JOURNAL.
Long may it wave,
O'er the home of the bee
And the land of no slave;
Good-bye foggy notions,
Humbags and queer ways,
Such as "king bees," "gums,"
And brimstone's blue rays (blazes).
Jacksonville, Ill., April 21, 1881. H. T. C.

Very Refreshing.—I commenced this spring with 132 colonies, have increased to 146, and have already extracted 626 gallons of honey. Counting the original number, it makes an average of 56.8 lbs. per colony. The white clover season closed on April 29. The next (which is the same as your basswood harvest), commences the first week in June and continues until the last of July. If the season is as good as it was in 1879 I shall get about 700 gallons more. My average that year was 9 gallons per colony, counting the number commenced with in the spring. I have never used an ounce of glucose and would quit the business if I had to use it. I have instructed my merchants to give away my honey if any trace of glucose can be found in it. J. D. BEDELL. Franklin, La., May 1, 1881.

Heavy Loss.—I have lost 28 out of 31 colonies of bees during the past winter. WM. A. BRUNDAGE. Lodi, N. Y., May 2, 1881.

Loss 50 Per Cent.—I had 14 colonies of bees packed in chaff on the summer stands. I have lost 7; the other 7 are strong. Nearly all the bees in this vicinity are dead. Success to the JOURNAL. V. FISHER. Ironton, Wis., April 30, 1881.

Spring Dwindling.—I must sorrowfully disclaim, as undeserved, the credit given my sister and myself for comparative success in wintering, in the BEE JOURNAL for April 27. On March 9, after a 3 days' flight, our bees received a thorough examination. Bottom boards were cleaned and honey given where needed. Those which had suffered more or less from dysentery—some 25 colonies—were found in much better condition than had been anticipated. They had considerable capped brood and no lack of bees to care for it. Brood enough had been reared to in part supply the place of bees which had died. But little honey was left in many cases, but this we could remedy. We found but 2 dead colonies—one from starvation. At that time we expected to lose no more. In answer to inquiries, about 10 days later, we reported as above, hence the statement in the *Saginaw Herald*. Some of our friends will not be greatly surprised to learn that our amended report is a loss of 15 out of 52. We close our 9th year as beekeepers with our 1st experience in spring dwindling; we have never before lost a colony in wintering. We attribute a large part of our loss to the fact that we were unable to prepare our bees in good season last fall. We winter in chaff on the summer stands, and our theory is that the best results may be looked for only when the bees are packed early enough to insure their flying out after the packing.

LUCY A. WILKINS.
Farwell, Mich., May 3, 1881.

Bees Doing Well Now.—My bees are doing well now; some colonies are so strong that they hang out even during some cold nights. I have bought some and commence with 120 colonies, after a loss of 50 per cent.

H. D. BURRELL.
Bangor, Mich., May 6, 1881.

Building Up.—My bees are doing splendidly. My Italians are rearing drones already. I have only 8 colonies and I want to turn them all to increase, and shall raise no surplus until I get as many colonies as I think I can manage. I do not know exactly what plan to adopt. I have plenty of foundation; bought a lot of comb built out, from parties that lost their bees last winter. I look over my colonies every day and give my queens empty frames as fast as they need them. I shall first build each colony up strong, before attempting any increase, then insert a division board in my best colony, separate the queen and part of the bees from one side of the hive, and then raise a lot of queen cells (or remove the queen entirely and introduce her into a nucleus), then form as many nuclei as I have queen cells. This is the best plan that I know of. W. T. CLARY. Claryville, Ky., April 18, 1881.

Packed in Chaff, Without Loss.—I put in winter quarters 33 colonies (27 in the Doolittle hive, the rest my own make). I put cotton cloth over at each side; packed the super and ends of hive with straw and chaff; put them in a row; drove stakes about 6 inches in front and 6 inches back of the hives; placed boards inside the stakes and filled in with buckwheat chaff, and from 6 to 10 inches of wheat chaff above, covered with boards to keep dry; laid a board in front, supported by $\frac{1}{4}$ inch blocks laid on the alighting-board, to keep the chaff from the entrance and give a chance for flight, which they did not get from about the middle of November, when I packed them, until in March. I fed them coffee A and granulated sugar in the fall, to last until March, and the winter held on so long that I did not open them until about the middle of April, when I found two starved, (my only loss); these two were dry and in splendid condition. My bees have been bringing in pollen for the last 3 days.

By the bee papers I learn of heavy losses among the unfortunates being G. M. Doolittle (my guide). I sold 24 colonies, 23 of which are now silent: the one living was left with me, and I packed the super with chaff and left it out. They are carrying in pollen to-day. Mr. Doolittle says in forming nuclei he would wait 24 hours before introducing the cell, and would keep them shut up until towards night of the second day, to keep them from going back home. Now, how would he introduce the cell without the bees getting out? or would he smoke them down from the top, and put the cell on the frames instead of grafting it in? I learn of several having from 8 to 20 colonies in box hives, all of them dead; one apiary, 9 miles from me, of 160 colonies in the fall, in Langstroth frames, 100 dead; another of 30 colonies, in Langstroth frames, 18 dead 1 month ago, and expected to lose more. I am well pleased with the Weekly BEE JOURNAL; success to it.

A. P. COWAN.
Grattan, Mich., April 24, 1881.

[Desiring Mr. Doolittle to answer the above query, we have obtained the following reply from him.—Ed.]

"I said 24 hours' waiting, in opposition to A. I. Root's theory, to introduce queen-cell on taking queen out, which has failed 19 times in 20 with me. In this case the nucleus already had a laying queen to be replaced with a cell. When we make nuclei by the plan Mr. Cowan speaks of, we do not introduce queen-cell till after they have flown, unless the nucleus is made from queenless colony, as I prefer; in that case they are made 48 hours before the cell is ready to hatch."—G. M. D.]

Encouraged.—I fed some in the fall, but the cold weather set in so early that it proved a failure. All colonies that had stores enough are now in good condition and full of bees.

ROBERT CORBETT.
Manhattan, Kan., May 3, 1881.

Bee-Keeping in Dakota.—Now that winter has passed and the floods have subsided, I will venture to give an account of bees and bee-keepers in Dakota. Twenty bee-keepers within my knowledge, who, last fall, owned over 800 colonies of bees, do not now own over 180 colonies. Seven of them lost all they had; and of these 7 the most of them were the largest bee-keepers here, 3 of whom live in Vermillion, Dakota. The loss from wintering I think will not exceed 20 per cent., the great loss was from the floods that have not only swept away bee hives, but in many places on the Missouri River bottom it has swept away houses, barns, etc., and also several towns and villages were almost entirely swept away, causing privation and suffering to a considerable extent. My bees went through the winter first-rate; I only lost 2 colonies; they are doing well now, and have their hives well filled with brood, and if the present good weather continues they will swarm as early as usual, notwithstanding the late spring.

W. M. VINSON.
Elk Point, Dakota, May 2, 1881.

Loss 80 Per Cent. in Cellar.—I put 109 colonies of bees in the cellar last fall, and have but 28 healthy ones now. They did not have honey enough for such a long winter. R. S. JOHNSON. Lockport, Ill., May 3, 1881.

Loss One-Third.—The past few days have been fine for bees, and they have improved the time gathering pollen from the willows and soft maples. We had snow 4 inches deep on the 13th inst. The loss in wintering in general is very heavy in this locality, especially where they were left on the summer stands. My loss is about 33 per cent.; all wintered in house and cellar. The loss is mainly of those wintered in cellar, which was damp, and too cold.

W. D. WRIGHT.
Knowersville, N. Y., April 28, 1881.

Our Letter Drawer is yet very full, and many will be disappointed in not seeing their letters in this JOURNAL.

SPECIAL NOTICES.

Single copies of the JOURNAL are sent postage paid for 5 cents each.

Those who may wish to change from other editions to the Weekly, can do so by paying the difference.

The Volume of the BEE JOURNAL for 1880, bound in stiff paper covers, will be sent by mail, for \$1.50.

When changing a postoffice address, mention the old address as well as the new one.

We have prepared Ribbon Badges for bee-keepers, on which are printed a large bee in gold. Price 10 cents each, or \$8.00 per hundred.

Notices and advertisements intended for the Weekly BEE JOURNAL must reach this office by Friday of the week previous.

We can supply but a few more of the back numbers to new subscribers. If any want them, they must be sent for soon.

A Safe and Sure Means of restoring the youthful color of the hair is furnished by Parker's Hair Balsam, which is deservedly popular from its superior cleanliness. 18w4t

Constitutions and By-Laws for local Associations \$2 per 100. The name of the Association printed in the blanks for 50 cents extra.

Sample copies of the Weekly BEE JOURNAL will be sent free to any names that may be sent in. Any one intending to get up a club can have sample copies sent to the persons they desire to interview, by sending the names to this office.

The date following the name on the wrapper label of this paper indicates the time to which you have paid. In making remittances, always send by postal order, registered letter, or by draft on Chicago or New York. Drafts on other cities, and local checks, are not taken by the banks in this city except at a discount of 25c., to pay expense of collecting them.

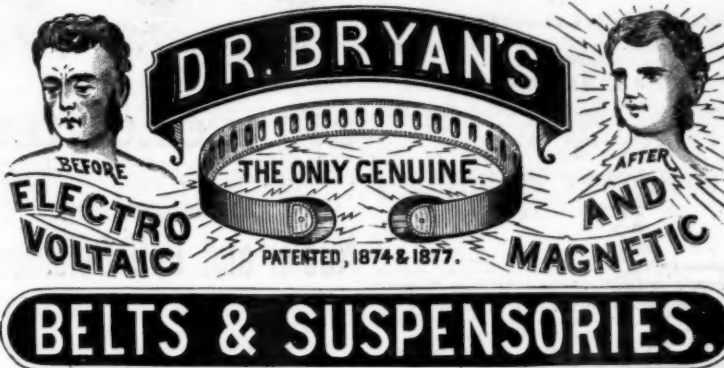
PREMIUMS.—For a club of 2, weekly, we will give a copy of "Bee-Culture;" for a club of 5, weekly, we will give a copy of "Cook's Manual," bound in cloth; for a club of 6, we give a copy of the JOURNAL for a year free. Do not forget that it will pay to devote a few hours to the BEE JOURNAL.

At the Chicago meeting of the National Society we were requested to get photographs of the leading apiarists, to sell to those who wanted them. We can now supply the following at 25 cents each: Dzierzon, the Baron of Berlepsch, and Langstroth. The likeness of Mr. Langstroth we have copied, is one furnished by his daughter, who says, "it is the only one ever taken when he was in good health and spirits." We are glad to be able to secure one of such a satisfactory nature.

It would save us much trouble, if all would be particular to give their P.O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name. Many others having no Post-office, County or State. Also, if you live near one postoffice and get your mail at another, be sure to give the address we have on our list.

Food for the Brain and Nerves that will invigorate the body without intoxicating, is what we need in these days of rush and worry. Parker's Ginger Tonic restores the vital energies, soothes the nerves and brings good health quicker than anything you can use.—Tribune. See other column. 18w4t

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Honey and Beeswax Market.

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CHICAGO.

HONEY.—The market is plentifully supplied with honey, and sales are slow at weak, easy prices. Quotable at 15c. for strictly choice white comb in 2 lb. boxes; at 10c. 12c. for common dark-colored and broken lots. Extracted, 7c. 8c. 9c.

BEESWAX.—Choice yellow, 20c. 22c.; dark, 15c. 17c.

NEW YORK.

HONEY.—Best white comb honey, small neat packages, 14c. 15c.; dark 11c. 12c.; large boxes 2c. less.—White extracted, 9c. 10c.; dark, 7c. 8c.

BEESWAX.—Prime quality, 20c. 22c.

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HONEY.—The market for extracted clover honey is good, at 8c. 10c. Comb honey is of slow sale at 16c. for the best.

BEESWAX.—18c. 22c.

C. F. MUTH.

SAN FRANCISCO.

HONEY.—A general disposition to clean up stocks of extracted is enabling buyers to obtain concessions on previous asking rates. Late rains have materially increased the bee food in the leading honey districts, and there are now good prospects of a very fair crop. We quote white comb, 12c. 14c.; dark to good, 10c. 11c. Extracted, choice to extra white, 5c. 6c.; dark and candied, 4c. 5c.

BEESWAX.—22c. 24c., as to color. STEARNS & SMITH, 423 Front Street. San Francisco, Cal., April 30, 1881.

CLUBBING LIST.

We supply the Weekly American Bee Journal and any of the following periodicals, for 1881, at the prices quoted in the last column of figures. The first column gives the regular price of both.

Publisher's Price.	Club.
The Weekly Bee Journal (T. C. Newman).....	\$2.00
and Gleanings in Bee-Culture (A. I. Root).....	3 00 2 75
Bee-Keepers' Magazine (A. J. King).....	3 00 2 60
Bee-Keepers' Exchange (J. H. Nellis).....	2 50 2 30
The 4 above-named papers, Minn.....	4 75 3 75
Bee-Keepers' Instructor (W. Thomas).....	2 50 2 35
Bee-Keepers' Guide (A. G. Hill).....	2 50 2 35
The 6 above-named papers.....	15 00 13 00
Prof. Cook's Manual (bound in cloth).....	7 25 3 00
Bee-Culture (T. G. Newman).....	2 40 2 25

For Semi-monthly Bee Journal, \$1.00 less.

For Monthly Bee Journal, \$1.50 less.

Local Convention Directory.

1881.	Time and Place of Meeting.
May 10, 11	—Eastern New York, at Schoharie, N. Y.
11	—S. Ward, Sec. Fuller's Station, N. Y.
11	—S. W. Wisconsin, at Darlington, Wis.
12	—N. E. France, Sec. Plattville, Wis.
12, 13	—Texas Bee-Keepers' Association, at Mc-Kinney, Collin Co., Texas.
12	—W. R. Howard, Sec. Kingston, Hunt Co., Tex.
17	—N. W. Ill. and S. W. Wis., at H. W. Lee's, Pecatonica, Ill.
17	—N. W. Union, at Hastings, Minn.
19	—Champlain Valley, at Bristol, Vt.
Sept.	—National, at Lexington, Ky.
	—Kentucky State, at Louisville, Ky.
Oct. 11, 12	—Northern Michigan, at Maple Rapids.
12	—Ky. State, in Exposition B'dg., Louisville, Ky.
	—W. Williamson, Sec. Lexington, Ky.

In order to have this Table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

We are very sorry to hear that both Mr. and Mrs. Doolittle are ill; Mrs. D. was thrown from a sleigh and received severe injuries, several weeks ago.

The Southern Michigan Bee-Keepers' Association will hold a meeting in Battle Creek, Mich., on Wednesday, May 11, 1881, at 10 a. m.

B. SALISBURY, Sec.

The N. W. Wisconsin Bee-Keepers' Convention will be held at LaCrosse, Wis., in Germania Hall, Tuesday, May 11, 1881. Several essays will be read—one on "Wintering Bees," by N. Lossing, of Hokah, Minn., and one by L. H. Pammel, on the "Progress of Bee-Keeping." As a question box will be opened, it will consume a great deal of time to discuss the different topics. The custom of reading many essays will be done away with at this Convention, since it will be of more interest to discuss live issues than listen to essays.

L. H. PAMMEL, JR., Sec.

The Annual Meeting of the Society for the promotion of Agricultural Science will be at Cincinnati, on Tuesday, Aug. 16, 1881, the day preceding the sessions of the American Association for the advancement of science.

The bee-keepers of Missouri will meet in Convention at Mexico, Mo., on June 2, 1881, at 10 a. m., and hold a session two days. Dr. N. P. Allen, of Smith's Grove, Ky., President of the North American Bee-Keepers' Association, is expected to be present to assist in organizing a Bee-Keepers' Association; other leading bee-men are expected, due notice of which will be given. The programme will be published in a short time and will embrace such questions as will be of interest both to the novice and practical apiarist. All are invited to partake of and assist in this much needed organization. Those that cannot come will confer a favor by giving us a communication on some subject of interest to bee-men.

P. P. COLLIER, Vice Pres.

N. A. B. K. Association, for Mo.

All papers of Missouri please copy.

The next meeting of the N. W. Illinois and S. W. Wisconsin Bee-Keepers' Association, will be held at H. W. Lee's, 2 miles n.w. of Pecatonica, Winnebago county, Ills., on the 17th of May, 1881.

J. STEWART, Sec.

The Northern Michigan Bee-Keepers' Association will hold its fourth Annual Convention at Maple Rapids, Clinton Co., Mich., October 11 and 12, 1881.

DAVID EISELHMAN, Pres.

O. R. GOODNO, Sec., Carson City, Mich.

Books for Bee-Keepers.

Sent by mail, postpaid, on receipt of price, by
THOMAS C. NEWMAN.
974 West Madison Street, CHICAGO, ILL.

Cook's Manual of the Apisary.—Entirely rewritten, greatly enlarged and elegantly illustrated, and is fully up with the times on every conceivable subject that interests the apiarist. It is not only instructive, but intensely interesting and thoroughly practical. The book is a masterly production, and one that no bee-keeper, however limited his means, can afford to do without. Cloth, \$1.25; paper, \$1.

Quinby's New Bee-Keeping. by L. C. Quinby. The author has treated the subject of bee-keeping in a manner that cannot fail to interest all. Its style is plain and forcible, making all its readers sensible that the author is master of the subject.—\$1.50.

Novice's A B C of Bee-Culture. by A. I. Root. This embraces "everything pertaining to the care of the honey-bee," and is valuable to beginners and those more advanced. Cloth, \$1.25; paper, \$1.00.

King's Bee-Keepers' Text-Book. by A. J. King. This edition is revised and brought down to the present time. Cloth, \$1.00; paper, 75c.

Langstroth on the Hive and Honey Bee. This is a standard scientific work. Price, \$3.00.

Blessed Bees. by John Allen.—A romance of bee-keeping, full of practical information and contagious enthusiasm. Cloth, \$1.00.

Bee-Culture; or Successful Management of the Hive. by Thomas C. Newman. This pamphlet embraces the following subjects: The Location of the Apisary—Honey Plants—Queen Rearing—Feeding—Swarming—Dividing—Transferring—Introducing Queens—Extracting—Beekeeping and Handling Bees.—The Newest Method of Preparing Honey for Market, etc. It is published in English and German. Price for either edition, 40 cents, postpaid, or \$3.00 per dozen.

Food and Nutrition. What we eat and should not eat. This book should be in every family, where it ought to create a sentiment against the adulteration of food products, and demand a law to protect consumers against the many health-destroying adulterations offered as food. 30 pages. Paper, 50c.

The Dzierzon Theory.—presents the fundamental principles of bee-culture, and furnishes a condensed statement of the facts and arguments by which they are demonstrated. Price, 15 cents.

Honey, as Food and Medicine. by Thomas C. Newman.—This is a pamphlet of 24 pages, discarding upon the Ancient History of Bees and Honey, the nature, quality, sources, and preparation of Honey for the Market; Honey as an article of food, giving recipes for making Honey Cakes, Cookies, Puddings, Foams, Wines, &c.; and Honey as Medicine, followed by many useful Recipes. It is intended for consumers, and should be scattered by thousands all over the country, and thus assist in creating a demand for honey. Published in English and German. Price for either edition, 6c.; per dozen, 50c.

Wintering Bees.—This pamphlet contains all the Prize Essays on this important subject, that were read before the Centennial Bee-Keepers' Association. The Prize—\$25 in gold—was awarded to Prof. Cook's Essay, which is given in full. Price, 50c.

The Hive I Use.—Being a description of the hive used by G. M. Doolittle. Price, 6c.

Extracted Honey; Harvesting, Handling and Marketing.—A 24-page pamphlet, by Chas. C. Dadant, Hamilton, Ill. This gives in detail the methods and management adopted in their apisary. It contains many useful hints. Price, 50c.

Practical Hints to Bee-Keepers. by Chas. F. Muth; 32 pages. It gives Mr. Muth's views on the management of bees. Price, 10c.

Kendall's Horse Book.—No book can be more useful to horse owners. It has 35 engravings, illustrating conditions of sick horses, and treating of them in a plain and comprehensive manner. It has a large number of good recipes, a table of doses, and much other valuable horse information. Paper, 25c.

Chicken Cholera. by A. J. Hill.—A treatise on its cause, symptoms and cure. Price, 25c.

Kopp's Easy Calculator.—These are handy tables for all kinds of merchandise and interest. It is really a lightning calculator, nicely bound, with slate and pocket for papers. In cloth, \$1.00; Morocco, \$1.50. Cheap edition, without slate, 50c.

The Crowning Culmination. A \$5 Book for \$2.00!!

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Programme of the Northwestern Bee-Keepers' Union, to be held at Hastings, Minn., May 17, 1881:

- 1.—Address of Welcome, by J. N. Searis.
 - 2.—Reports of committees.
 - 3.—Reports from all-number, kind and condition of bees.
 - 4.—A paper by Pres. A. Tidball, on honey-producing plants and flowers.
 - 5.—A paper by Dr. F. Barton, of St. Paul, on honey as food and medicine.
 - 6.—A paper on our fairs, by Hon. William Avery, of St. Croix Falls, Wis.
 - 7.—A paper on sales of honey, by F. B. Dorothy, of Taylor's Falls, Minn.
 - 8.—A paper on wintering bees, by L. Day, of Farmington.
 - 9.—Progressive bee-culture, by J. G. Teter.
- The above subjects will be open for discussion. In addition to the above, the following subjects are suggested:
- 1.—Essential properties of a good bee hive.
 - 2.—How to prevent and cure foul brood.
 - 3.—How to prevent spring dwindling.
 - 4.—Comb Foundation, with dividing and natural swarming.
- Appointment of committees.
Election of officers. Adjournment.
- All bee-keepers are cordially invited. Entertainment free. F. B. DOROTHY Sec.

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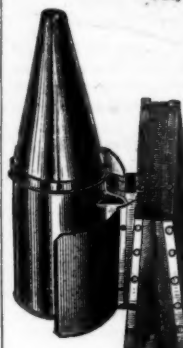
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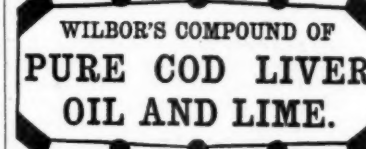
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